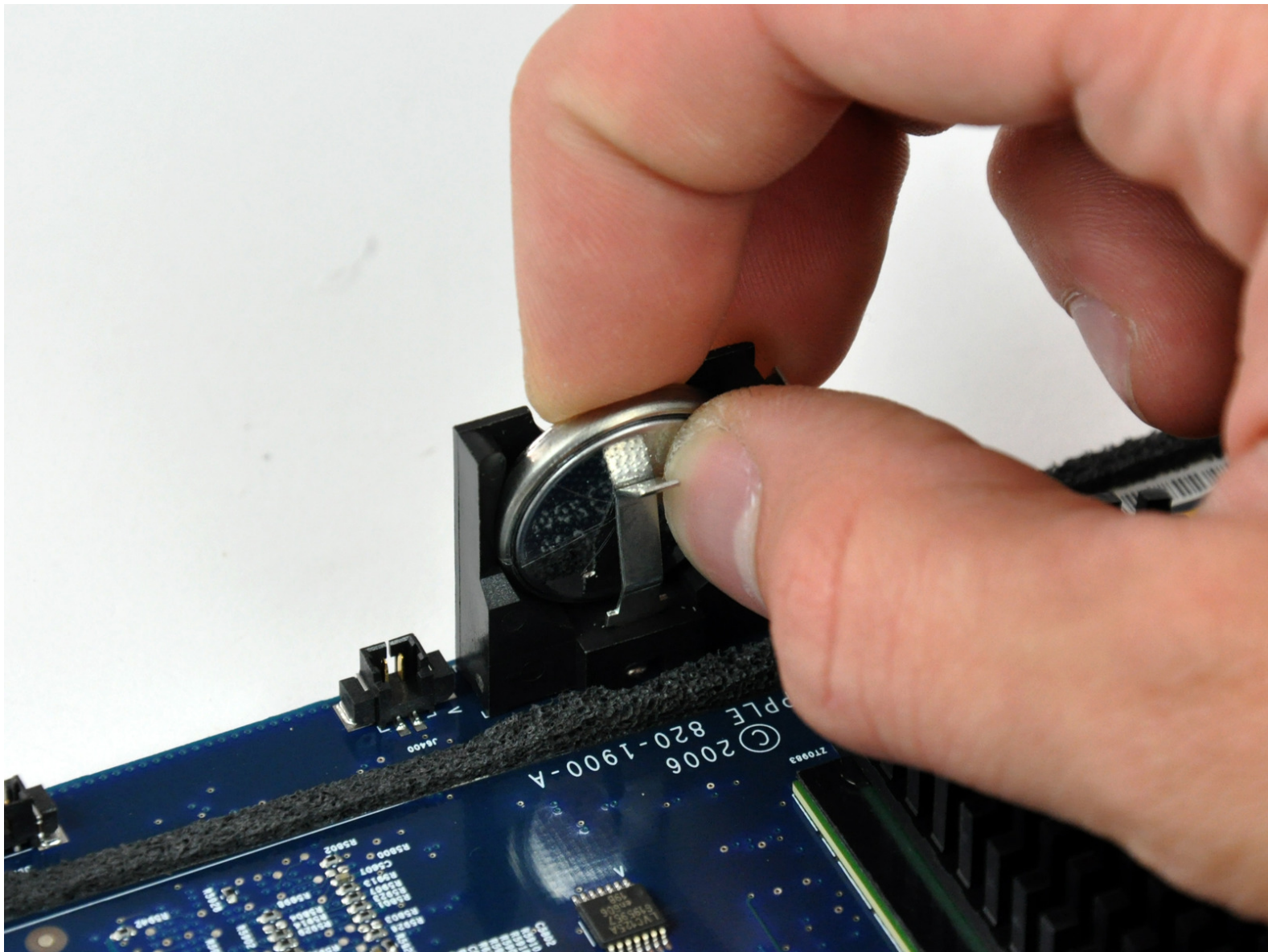




Mac mini Model A1176 Logic Board Replacement

Written By: Walter Galan



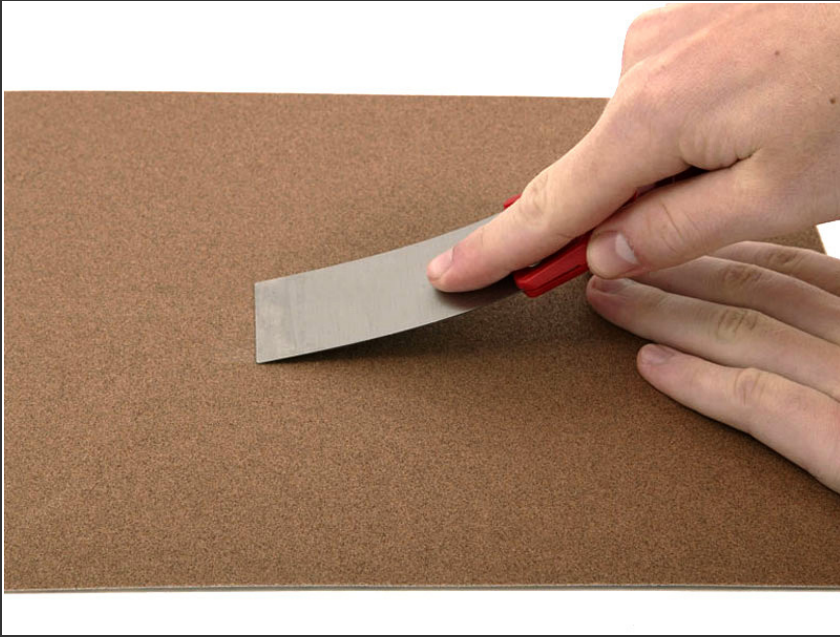
INTRODUCTION

This guide will show you how to replace the logic board.

TOOLS:

- [1.5" Thin Putty Knife](#) (1)
 - [Phillips #00 Screwdriver](#) (1)
 - [Spudger](#) (1)
 - [T10 Torx Screwdriver](#) (1)
 - [Tweezers](#) (1)
-

Step 1 — Top Housing



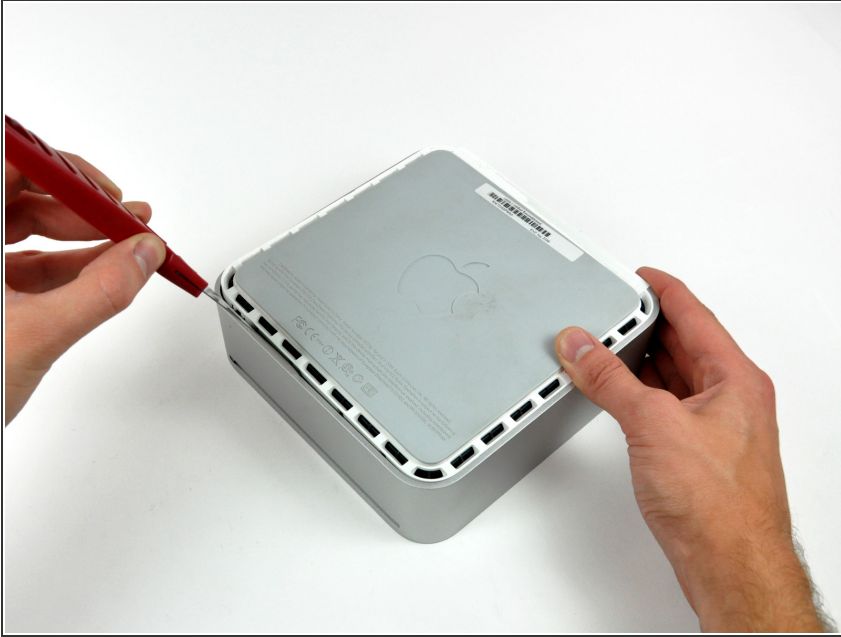
- i** You can skip this step if you bought your [putty knife from iFixit](#). Putty knives purchased from iFixit come with pre-ground edges.
- You'll need a putty knife in order to open the case. A 1.5 inch thin putty knife will work well, but you'll want to grind the edge down. Rub the putty knife's short edge back and forth on a sheet of all purpose rough grit sandpaper (100 grit will work fine) until it attains a beveled edge.

Step 2



- Carefully insert a putty knife into the crevice in between the top cover and bottom housing. Start on the left side first. Push the blade down until you meet firm resistance (roughly 3/8 of an inch).
- Gently enlarge the existing crevice by prying the handle of the putty knife downward and away from the mini.
- i** It helps to start in the middle, then work along the edge until the bottom housing pops up slightly.

Step 3



- Next insert the putty knife into the crevice on the optical drive slot side of the computer.
- Pry the putty knife downward while working along the edge of the mini until the bottom housing further separates from the top housing.

Step 4



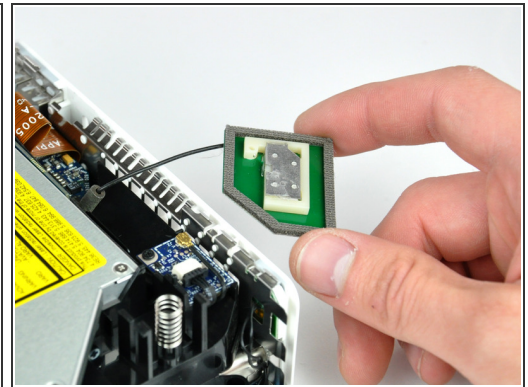
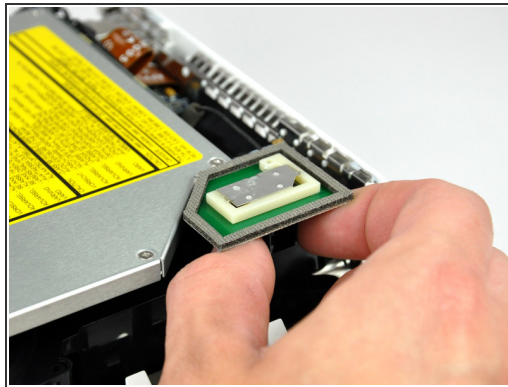
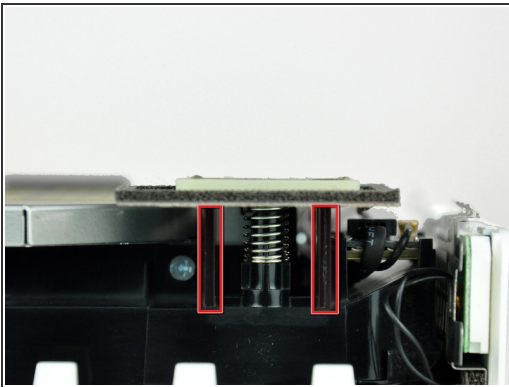
- Repeat the same procedure as the past few steps for the right side of the mini.
- ⓘ At this point, there should be a noticeable gap between the bottom and top housing around the perimeter of the mini.
- Turn the mini over.

Step 5



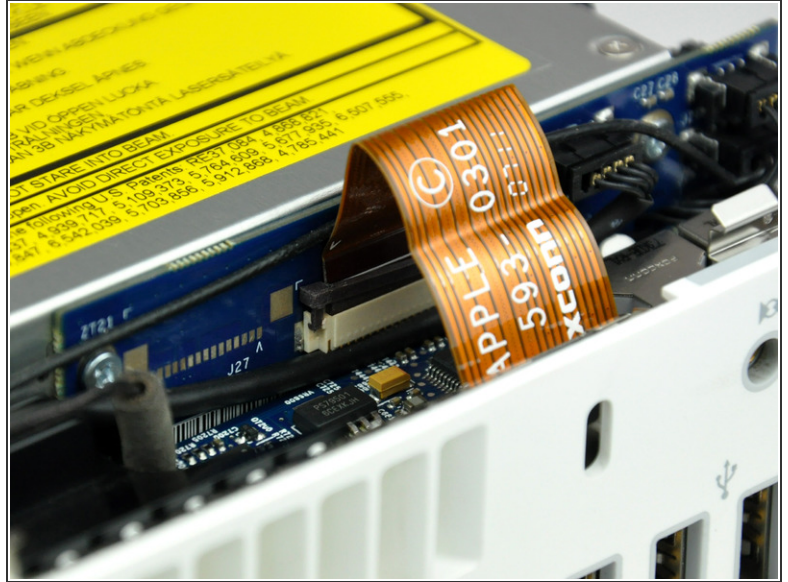
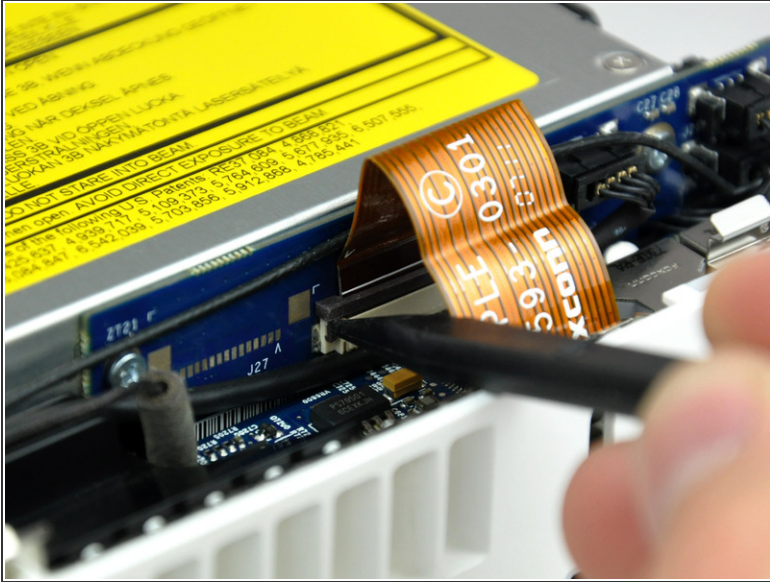
- Gently lift the top housing straight up off the mini and set it aside.
- ⓘ It may be necessary to wiggle the top housing while lifting it off the bottom housing. If any of the tabs get stuck on the top housing, use the putty knife to free them.

Step 6 — Internal Frame



- ⚠ Later in this guide you will remove several recessed Phillips screws. Bit drivers are generally too large to fit in the recesses, so be sure to have a thin shafted Phillips screwdriver on hand.
- ⓘ First remove the AirPort antenna (the larger of the two), located near the power button.
 - Slightly squeeze the two retaining arms toward each other and lift the AirPort antenna off its post.
- ⚠ Squeezing the two posts excessively will surely break them off the internal frame. Work delicately.
- 🔧 During reinstallation, you will have to slightly squeeze the two posts together so they fit into the openings on the AirPort antenna board.

Step 7



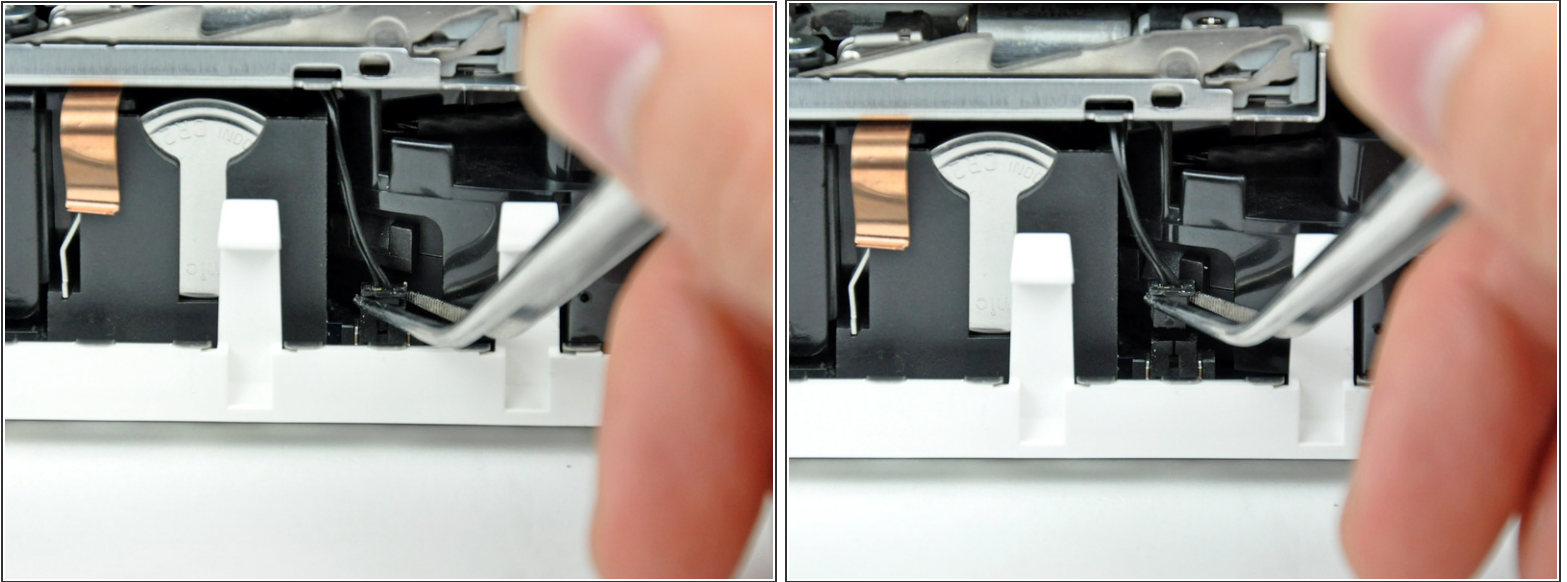
- Use the tip of a spudger to slightly lift the left side of the ZIF cable lock up from its socket.
- ⚠ The ZIF cable lock will lift about 1 mm and stop. **Do not** try to completely remove the ZIF cable lock.

Step 8



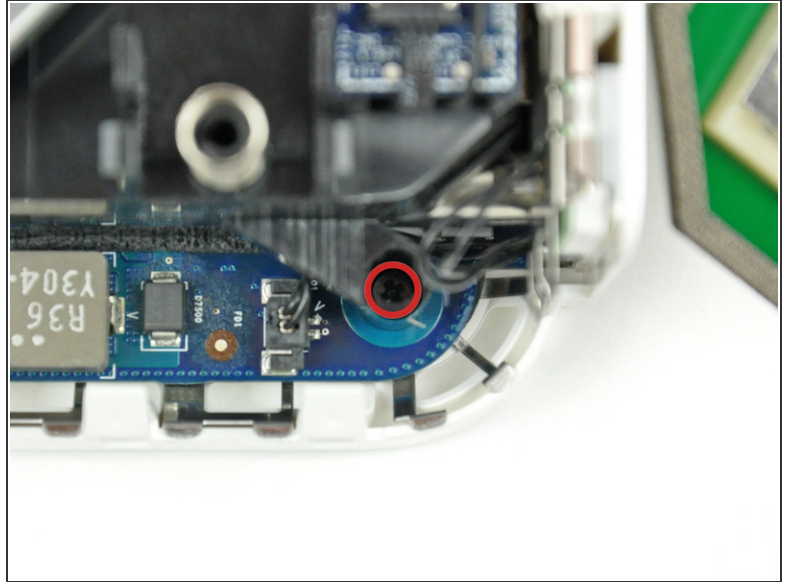
- Lift the audio board ribbon cable up out of its socket.
- ⓘ If it refuses to lift from its socket, the ZIF cable lock is not fully released. Make sure it is evenly lifted about 1 mm from the socket on the interconnect board.

Step 9



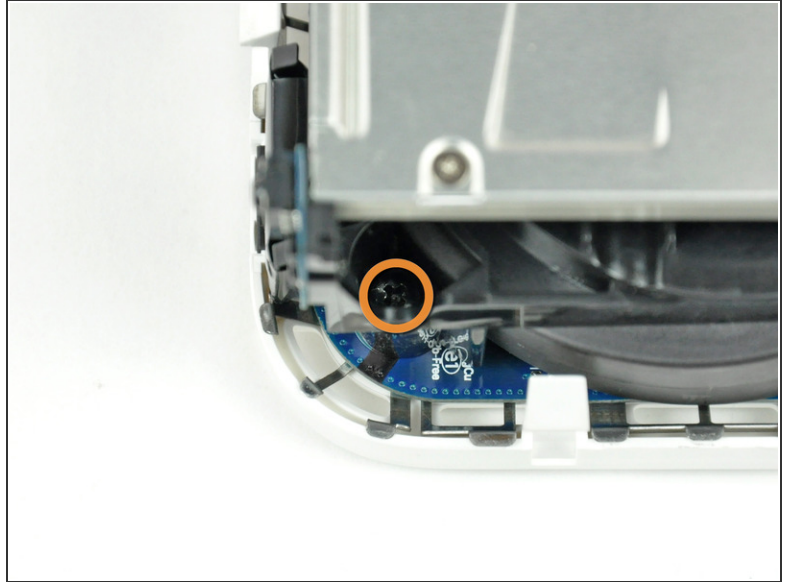
- ⓘ Rotate the mini so that the SuperDrive slot loading mechanism is facing you.
 - Use a pair of tweezers to lift the hard drive thermal sensor cable connector up off its socket on the logic board.
- ⚠ Use tweezers to grab the connector (as seen in the picture), **not the wires**.
- ⓘ The connector is located under the optical drive opening, next to the PRAM battery.

Step 10



- i** In the next few steps, you will remove the four Phillips screws securing the internal frame to the bottom case. Included in each step is an overview picture showing the general location and a closeup showing the actual screw.
- Remove the recessed Phillips screw near the power button securing the internal frame to the bottom housing.

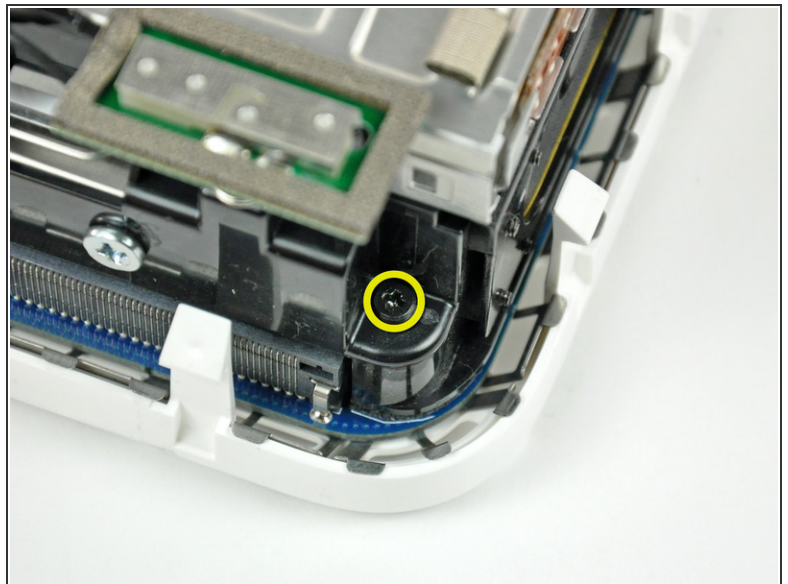
Step 11



- Remove the recessed Phillips screw near the sleep light securing the internal frame to the bottom housing.

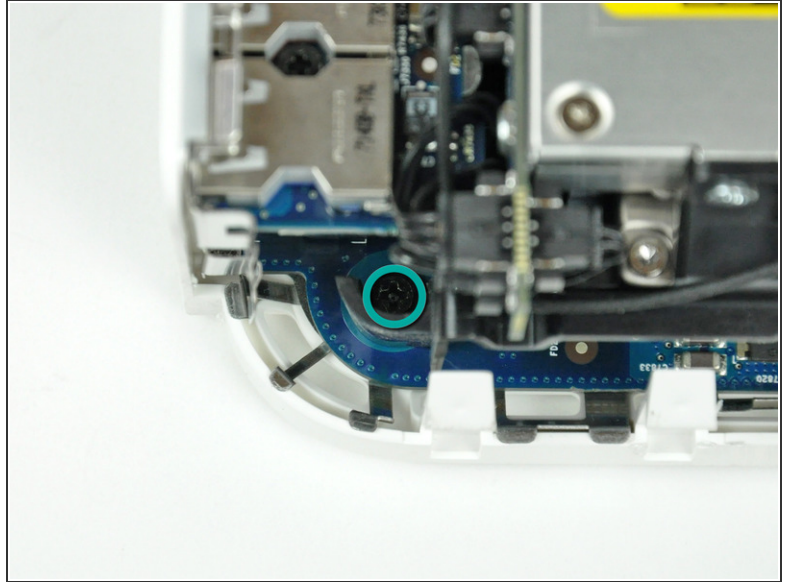
i This screw is the longest of the four screws securing the internal frame to the bottom case.

Step 12



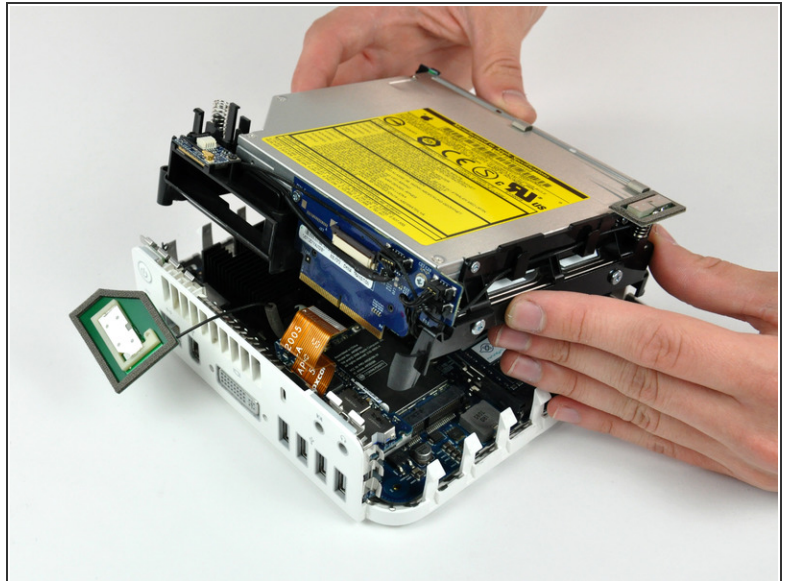
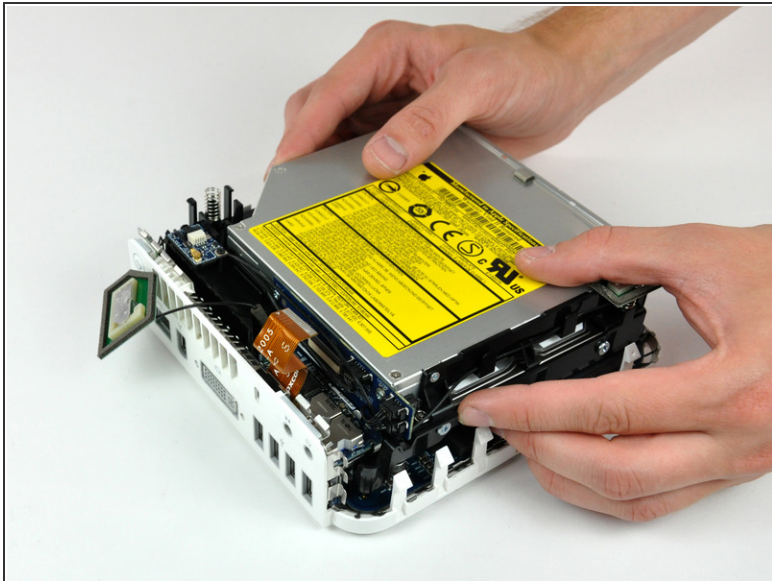
- Remove the Phillips screw from the internal frame near the Bluetooth antenna.

Step 13



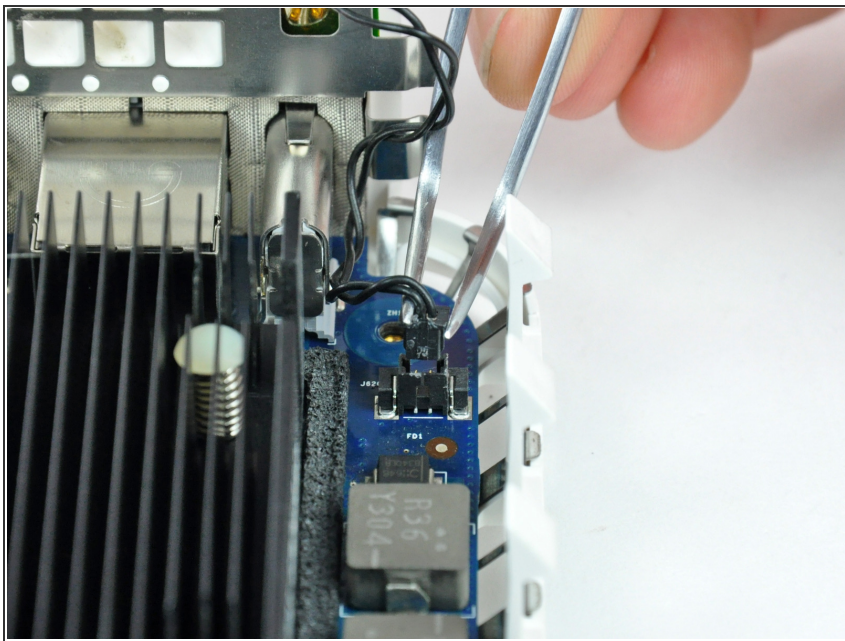
- Remove the Phillips screw near the audio ports securing the internal frame to the bottom case.

Step 14



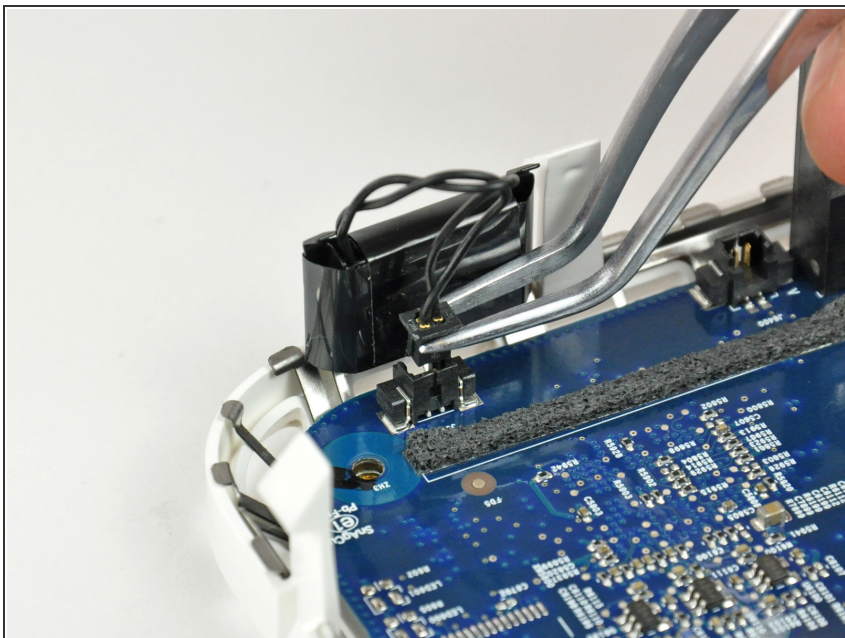
- Gently lift the internal frame up from the bottom housing, minding the AirPort antenna and any other cables that may get caught.
- ⓘ It may be necessary to pull up near the interconnect board to separate it from the logic board.

Step 15 — Logic Board



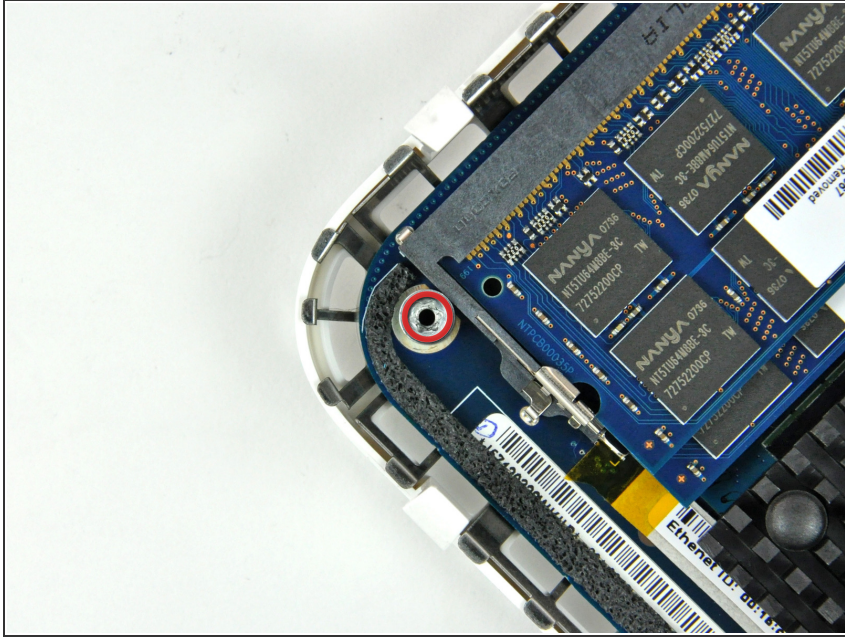
- Firmly grasp the power button cable connector with a pair of tweezers and lift it straight up off the logic board.

Step 16



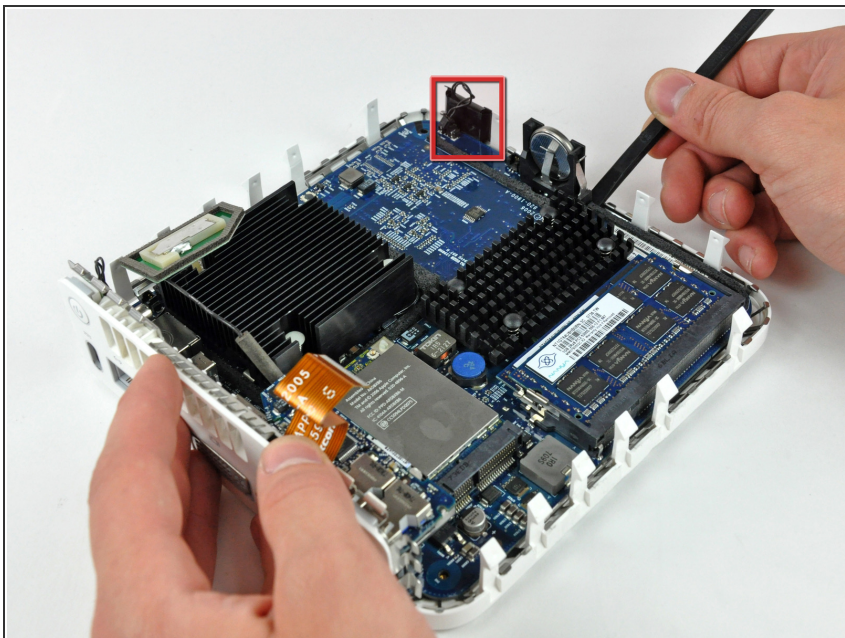
- Firmly grasp the sleep light cable connector with a pair of tweezers and lift it straight up off the logic board.

Step 17



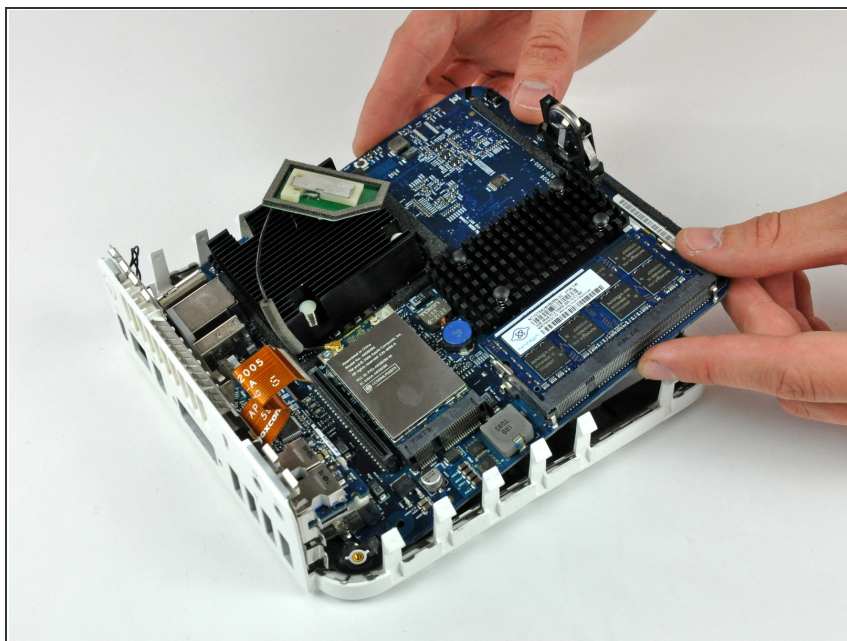
- Remove the single T10 torx lug securing the logic board to the bottom housing.

Step 18



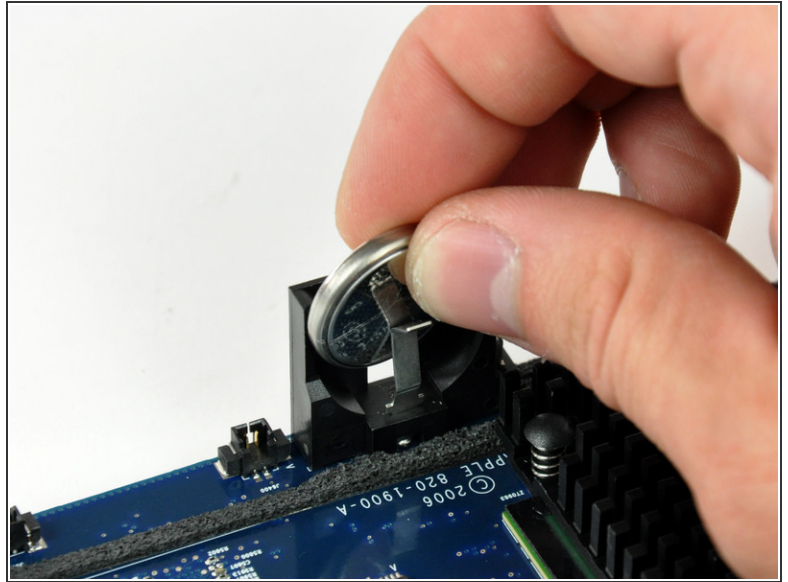
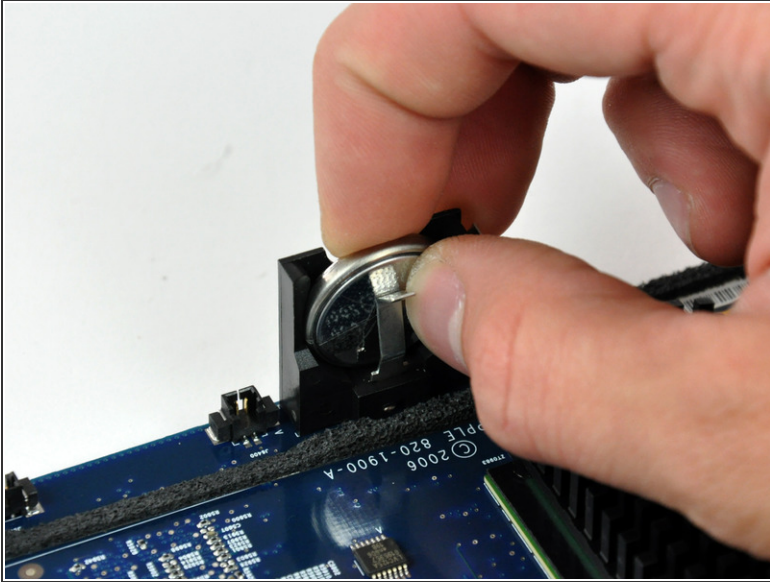
- Use the flat end of a spudger to slightly lift the logic board near the PRAM battery to separate it from the bottom housing.
- ⓘ It will be necessary to gently pull the sleep light (shown in red) away from the mini to clear the edge of the logic board.

Step 19



- Gently lift the free end of the logic board and wiggle the board as you pull it away from the I/O ports.

Step 20 — Logic Board

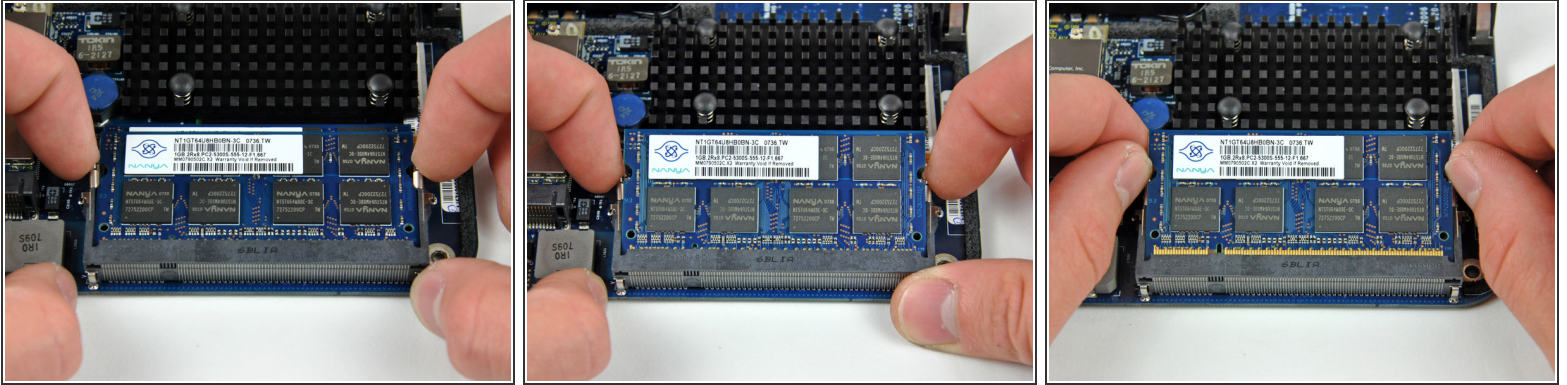


- Push the PRAM battery toward the center of the logic board and pull it up out of its holder. You'll have to push the battery in further than you'd expect in order to get it to pop free.

⚠ Don't bend the metal finger too much or it will break off, requiring a new logic board.

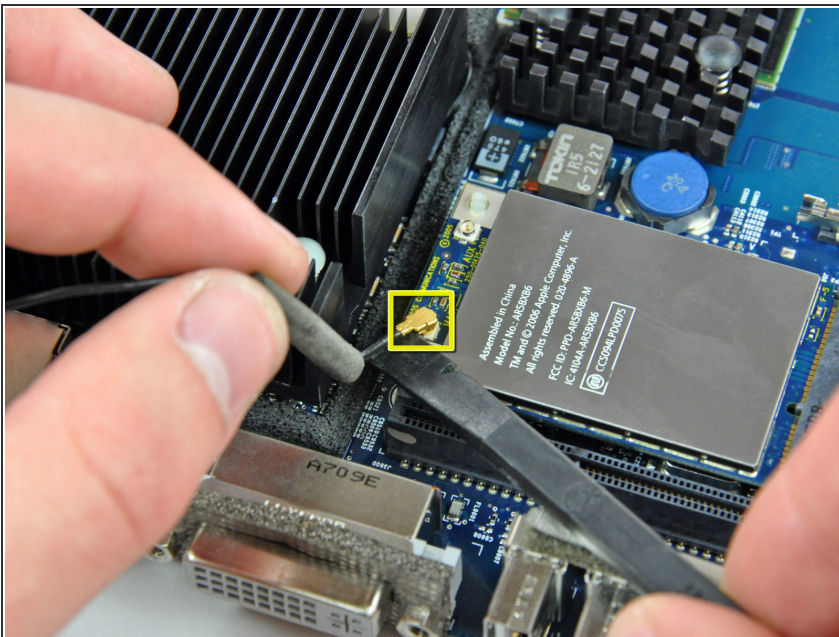
- When inserting the new battery, make sure the side with writing along the edges faces the black plastic holder. You should also ensure that the metal connectors make contact with the battery (you can bend them forward if they do not).

Step 21



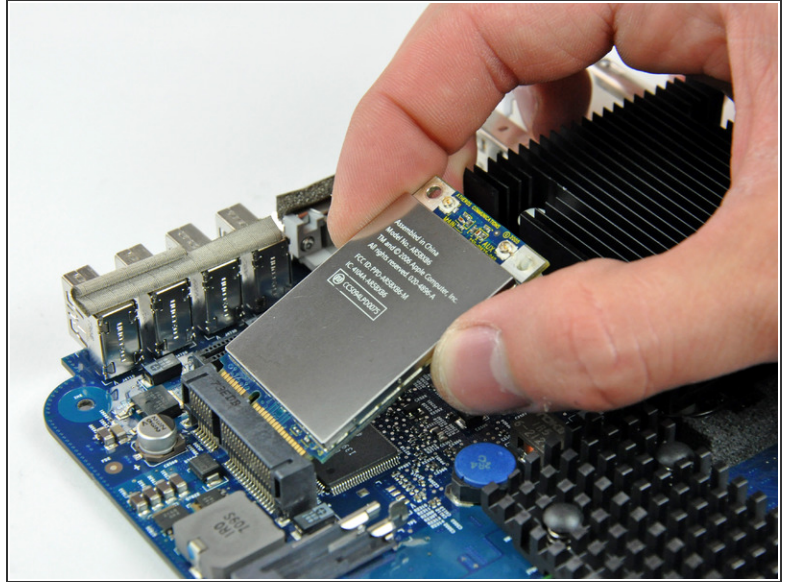
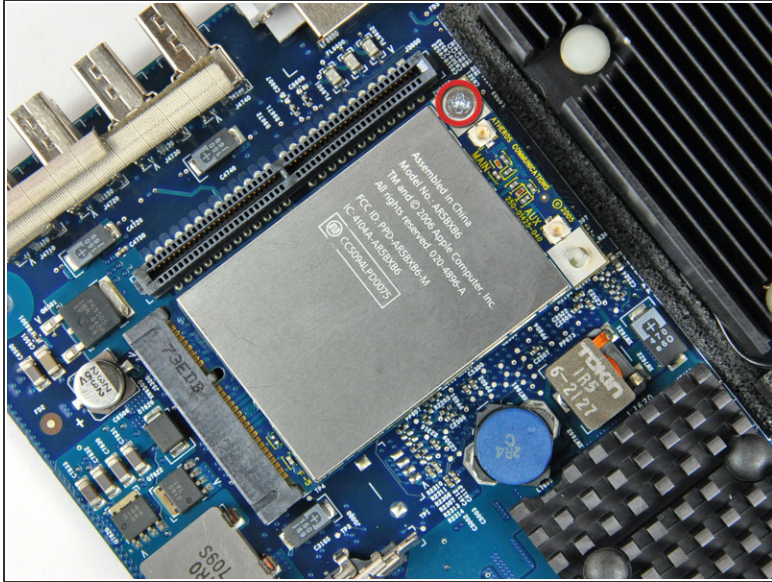
- Simultaneously pull the tabs on each side of the RAM chip away from the center of the chip. These tabs lock the chip in place and releasing them will cause the chip to "pop" up.
 - Pull the RAM chip directly out from its connector.
- i** If there are two RAM chips installed, repeat the above procedure for the second chip.

Step 22



- Use the flat end of a spudger to pry the AirPort antenna cable connector up off the AirPort card.

Step 23



- Remove the single Phillips screw securing the AirPort card to the logic board.
- ⓘ After removing this screw, the free end of the AirPort card should pop up slightly.
- Pull the AirPort card away from its socket on the logic board.

To reassemble your device, follow these instructions in reverse order.

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